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La Ricerca nel comparto agro-alimentare ed il Settimo Programma Quadro.

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Unit E 2: Food Quality





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Schema della presentazione

- **La ricerca nel settore agro-alimentare**
 - Aspetti economici: l'industria agro-alimentare
 - Aspetti sociali: consumo, salute
- **Il Settimo Programma Quadro**
 - Aspetti generali
 - Tema 2: Prodotti alimentari, agricoltura e biotecnologie
- **Le Piattaforme Tecnologiche Europee**
 - Aspetti generali
 - PTE "Food for Life"





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Cambiamenti nell'Europa a 25

With the EU 25 enormous changes are taking place in agricultural structures and F&D industries



On EU market

- The single market has expanded from 380 to 454 million consumers



On EU agriculture

- The Utilised Agricultural Area has increased by 29%



- A further 10 million farmers are added to the EU's existing population of 7 million

- The agricultural GDP has increased by only 7%



- Production in the EU will expand by about 10 - 20 % for most products.

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opolis, 27/02/2006

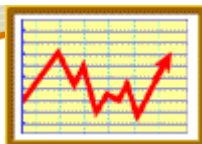
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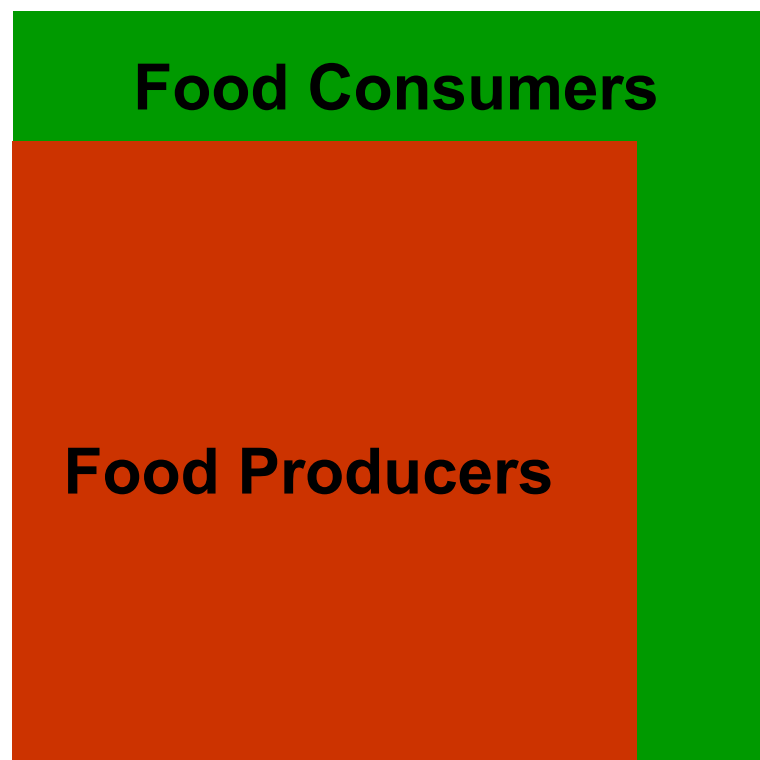


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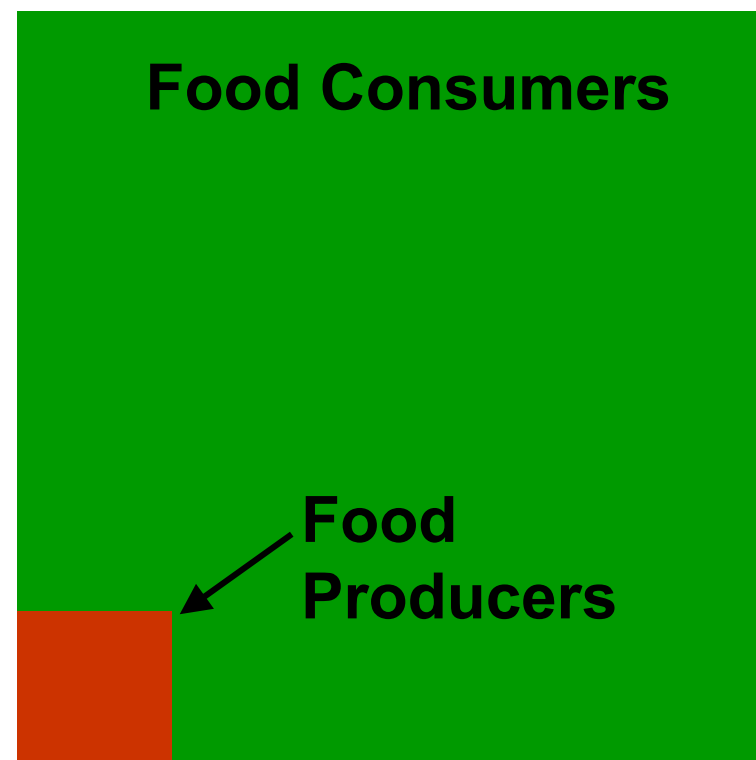
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L'evoluzione della filiera



EUROPE, 1800



EUROPE, 2000





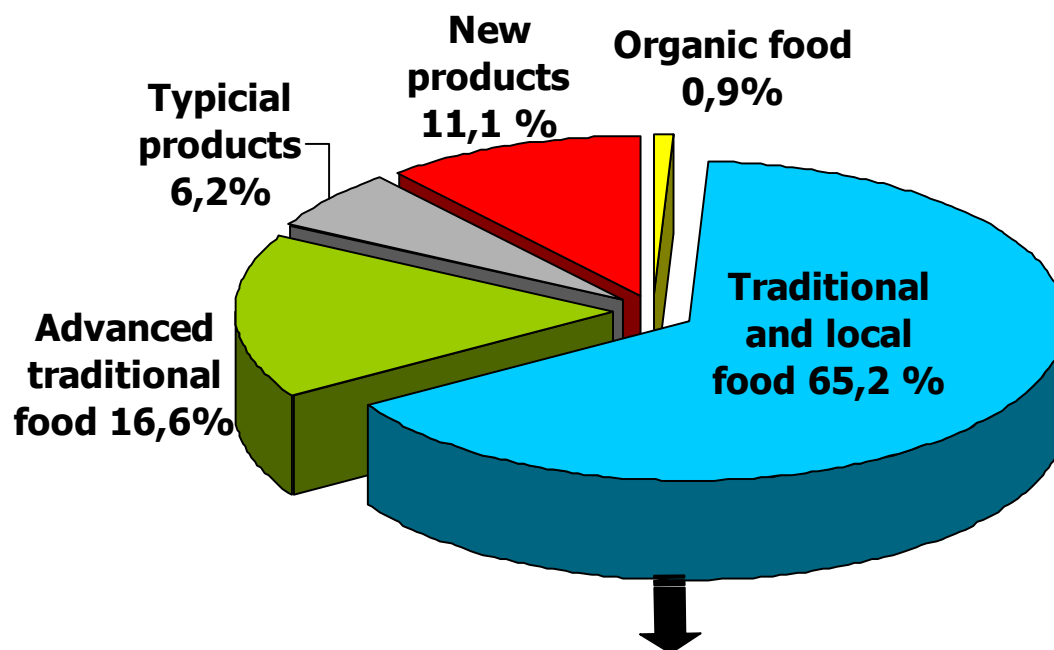
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Importanza economica dell'industria agro-alimentare

TOTAL TURNOVER BY PRODUCT (EU 25)



Advanced traditional products	Typical products (PDO, PGI including wine)	New products (novel, functional, healthy, ready to eat, etc.)	Organic food	Traditional and local products	TOTAL
131 billion €	50 billion €	88 billion €	7 billion €	534 billions €	810 billion €

Source: Eurostat & CIAA, 2004

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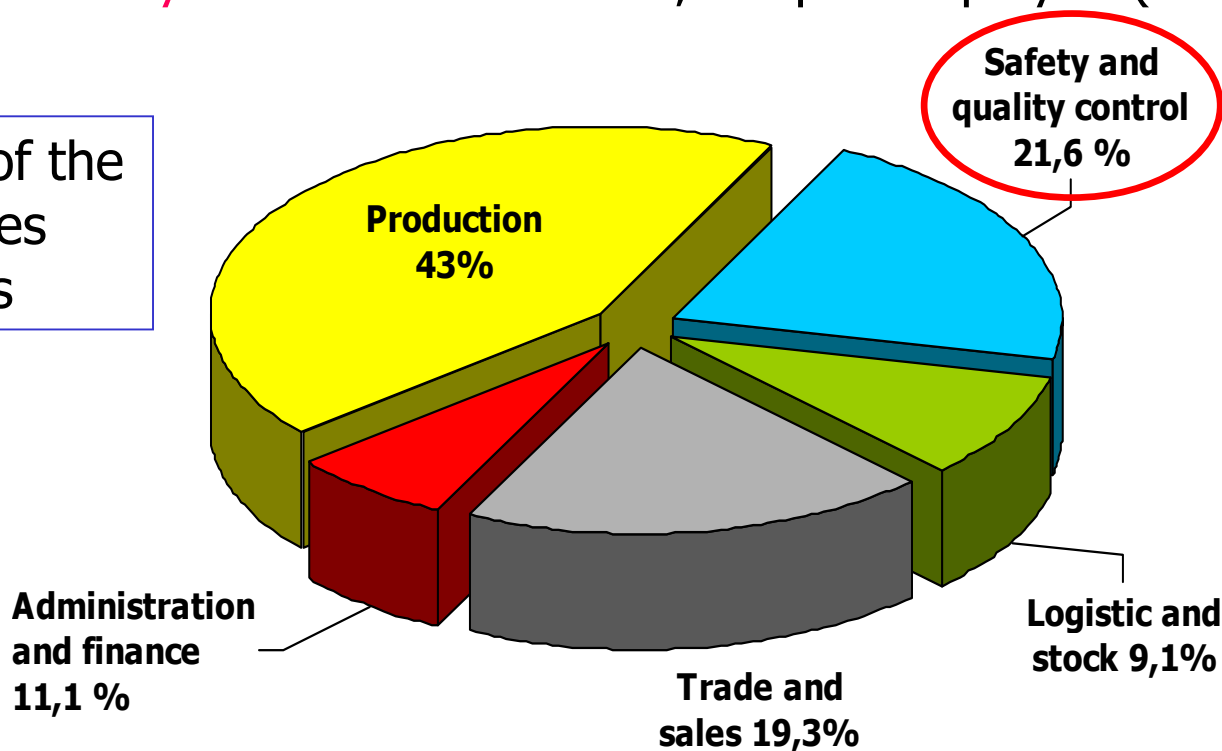


Importanza economica dell'industria agro-alimentare

TOTAL EMPLOYMENT

- A **major employer** with 4.1 million workers (61.3% in SMEs)
- More labour-intensive than manufacturing with an apparent **labour productivity** in the EU 25 of € 39,700 per employee (2001)

99.1 % of the
companies
are SMEs





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Importanza PMI a livello Europeo.

L'industria alimentare e bevande



282000 companies > 9 employees

36000 companies > 19 employees

7000 companies > 49 employees

**62.8% of
Total turnover**

120 companies > 499 employees

39 companies > 999 employees

**37.2% of
Total turnover**

**20.1% of
Total turnover**





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Benessere e salute.



Increasing
world
population

Ageing
population



preventive

curative



Obesity



Diabetes





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CONSUMO. Influencers & determinants





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First case of BSE found in Times

Confirmation that the fatal brain disease has jumped species from cows has alarmed sheep farmers, Valerie Elliott reports

THE fatal "mad cow" disease, known as BSE, has jumped species for the first time and has been diagnosed in a goat in France.

The news has alarmed food safety chiefs and farmers throughout the country.

The name of the French farm at the centre of the alert has not been revealed though tests on 300 other goats in the same herd were negative. A total of 140,000 goats have been tested for BSE throughout the country.

02-11-2004

Food poisoning alert over salmonella in Spanish eggs Guardian

James Melkie and Giles Tremlett in Madrid

Thousands of Britons have got food poisoning from salmonella in imported Spanish eggs, health officials said yesterday as they demanded that Madrid and the European commission took firmer action on safety.

people. More than 80 outbreaks of salmonella from the strains have been investigated since 2002 and "use by the catering trade of Spanish eggs" is said to be "a major source of this infection".

Health agencies have not pressed for an EU embargo, saying that confirmed to work

sion of feet dragging. Andrew Parker, the chairman of the British Egg Industry Council, said: "It is ridiculous that two years after the problem with Spanish eggs became apparent no action has been taken. It is now time for the British government to ban Spanish eggs."

15-10-2004

Fast food roasted over hidden fats

A consumer group says the Government must act against manufacturers to cut use of artificial fats, Valerie Elliott writes

THE Food Standards Agency is under pressure to tackle manufacturers over the levels of hidden fats linked to heart disease that are used in food production.

An investigation has found

McNuggets and regular fries, and 2.5g is served with a Burger King Whopper and regular fries. It is almost impossible to avoid a helping of trans fats if you buy convenience food. It is commonly found in biscuits.

uts and for amounts of trans fats used in products to be included on nutrition labels. The US National Academy of Sciences' Institute of Medicine, which advises the US government, has said the only safe



Times

07-10-2004

School meals fail salt and fat tests Guardian

Lucy Ward 28-10-2004 Education correspondent

Primary schoolchildren in England and Wales are being served school dinners containing much higher levels of fat, sugar and salt than nutritionists recommend, according to a detailed analysis of the meals.

needed and 709 recommended level. The association, number of voice higher quality schools improve health as child obesity, analysis primary school meals a cheese fritter, potatoes and flapjacks shape, spaghetti hot faces and an ice lolly. It compared the nutritional guide by the Caroline Walker public health third food and says schools should provide on third of a child

mended daily nutrients. The then came up with meal recommendations. Despite government to improve school nutritional standards for years

Trust

Can I trust this company?

Is it good for me?

Can I trust this brand?

Honesty

Is it fresh?

Does it do what the advertising claims?

Is it natural?

Familiarity

Naturalness

What does the label mean?

What was added?

Quality

Food Safety

Does it taste good?

Is it safe to eat?

Trust





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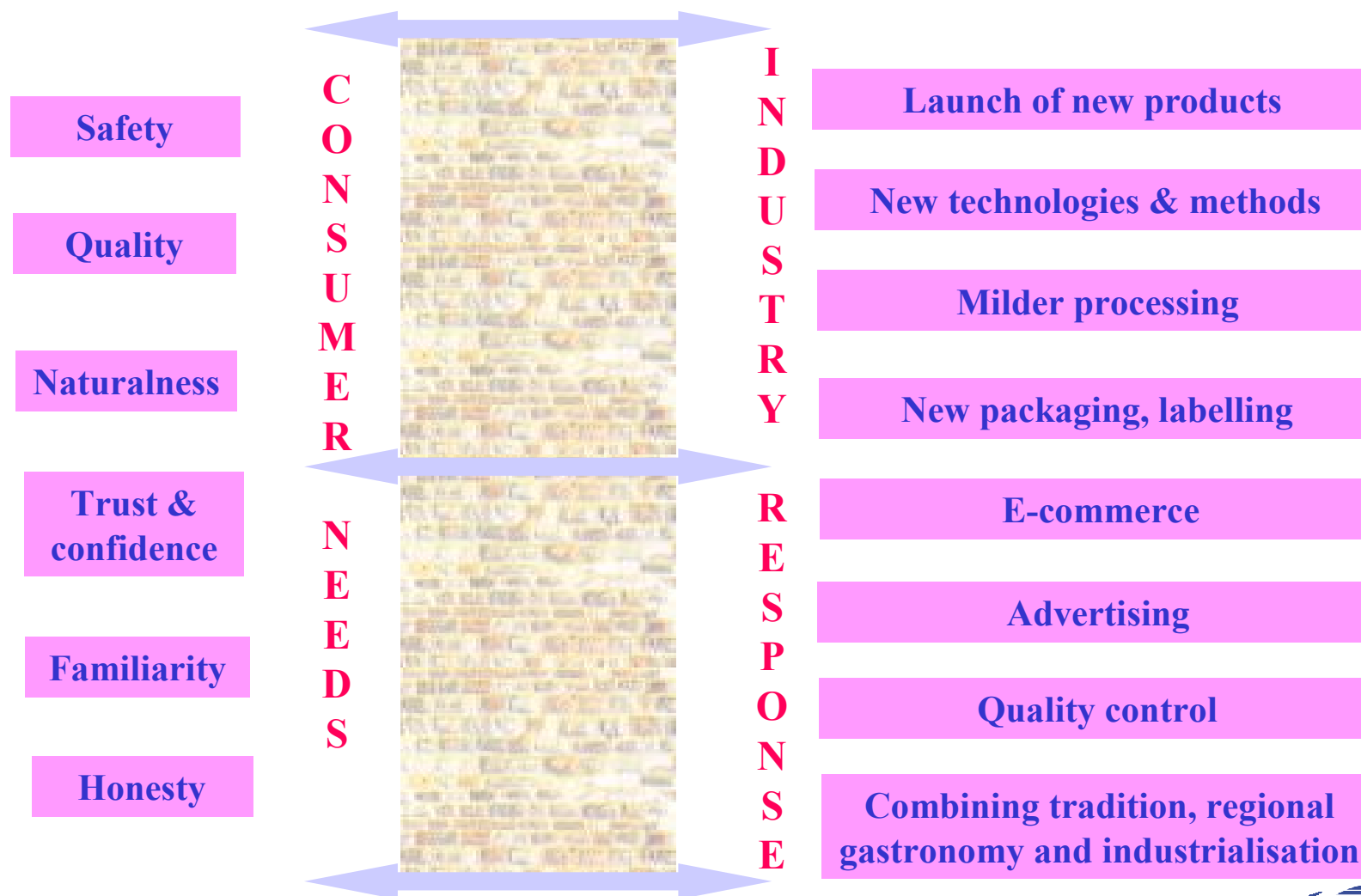
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CONSUMO.

Interazioni Consumatore – Industria*

*nel settore trasformazione e distribuzione



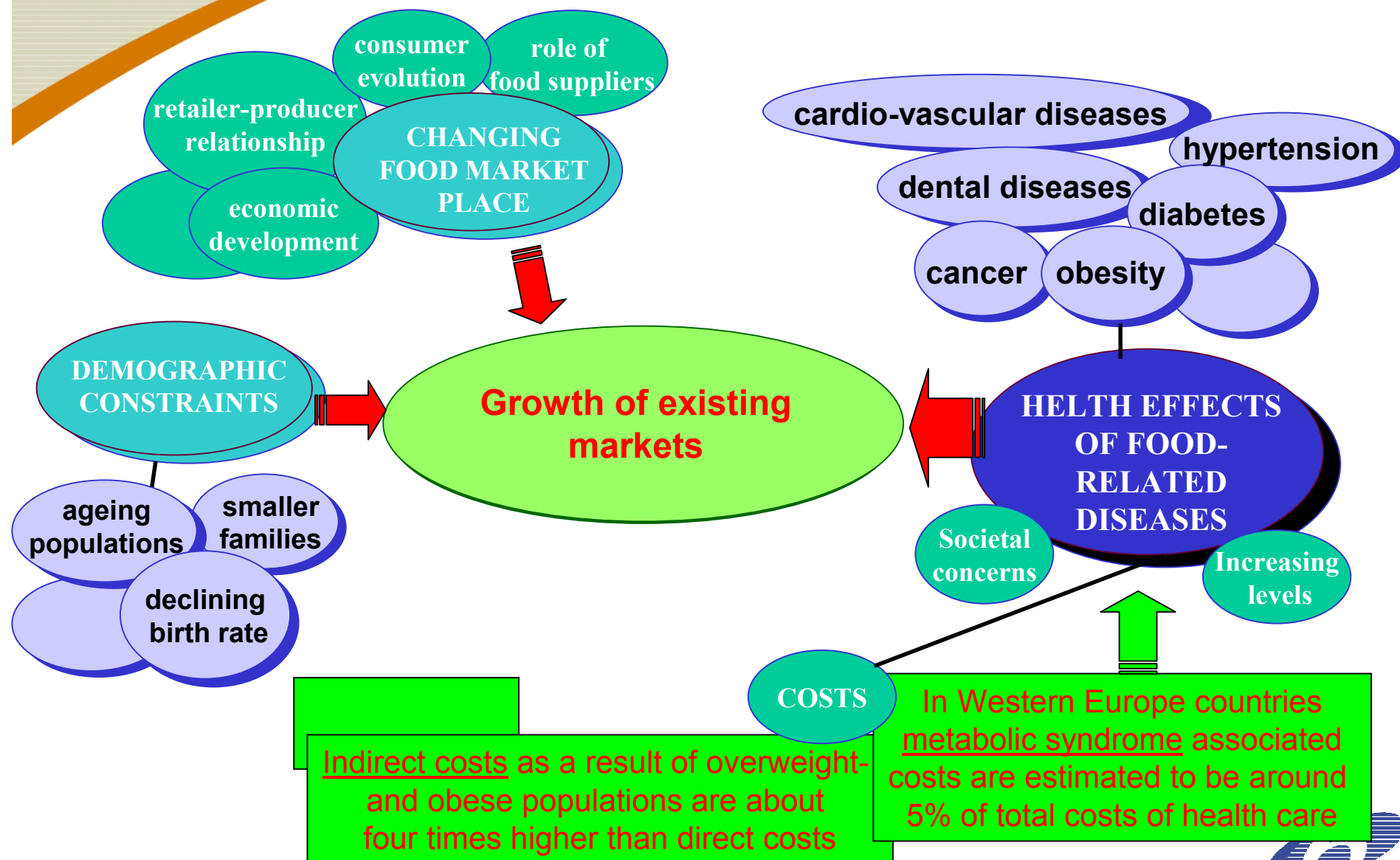


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Proteggere la salute. Perchè ?





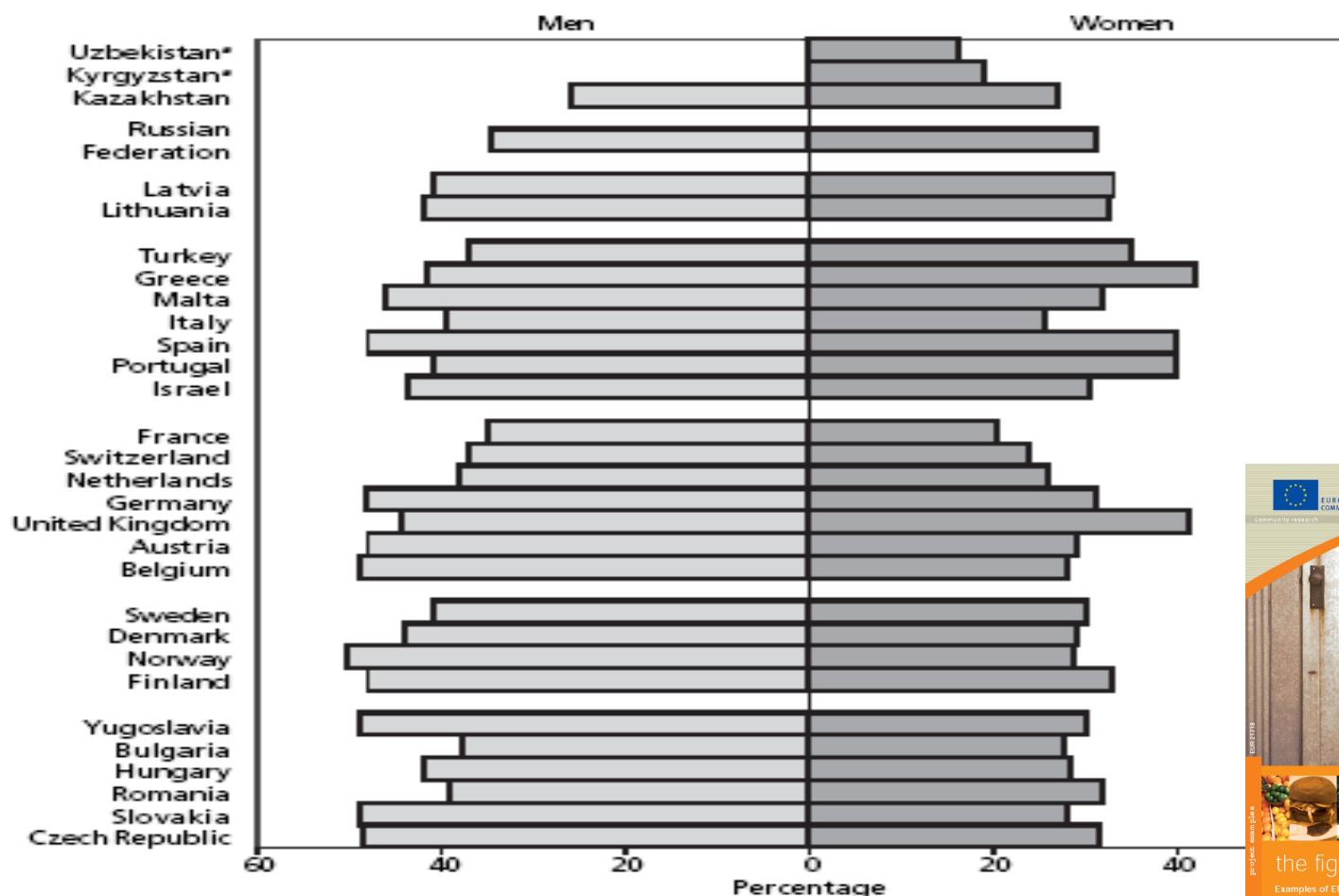
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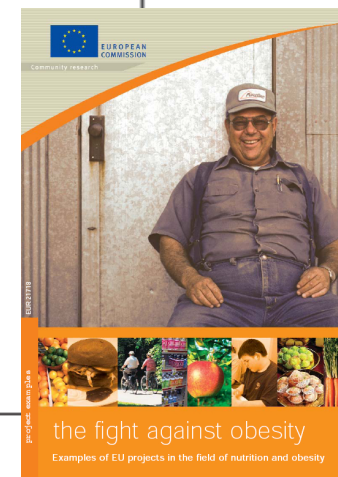


Proteggere la salute. Esempio

Overweight adults in EU



* No data are available on overweight in men.





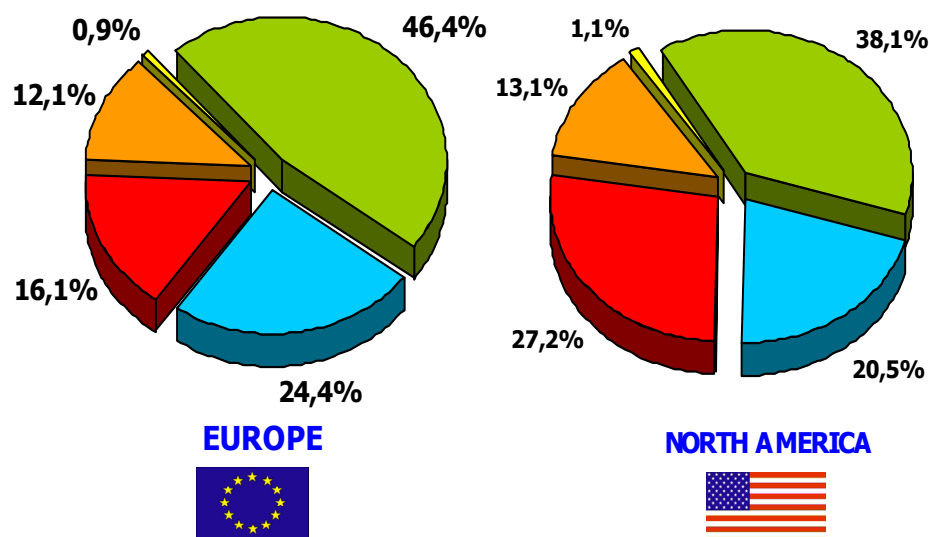
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INNOVATION DRIVERS

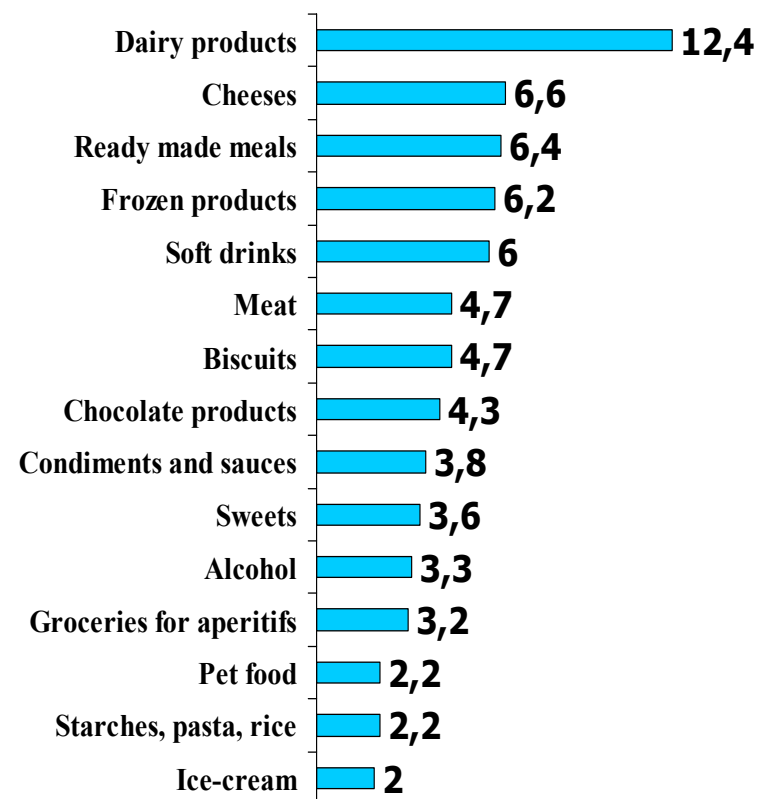
- Pleasure
- Convenience
- Health
- Well-being
- Ethics



The right food at the right time
in the right place

Innovazione Alimentare. Drivers e prodotti

The 15 most innovating products in Europe (share %)





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Strumenti per l'implementazione

The **integration** of the rich traditions of European cuisine with the innovation-driven marketplace will be a great and constant challenge

Product development and new **process** equipment, **processing** lines or **distributing** manufacturing systems

Adapt innovation strategy to the **phase** of the product cycle and the **temporal dynamics** of technological production in the industry

Integrate in business **Network** through horizontal or vertical cooperation.

Technology **transfer**, **training** and **education** of food industry personnel





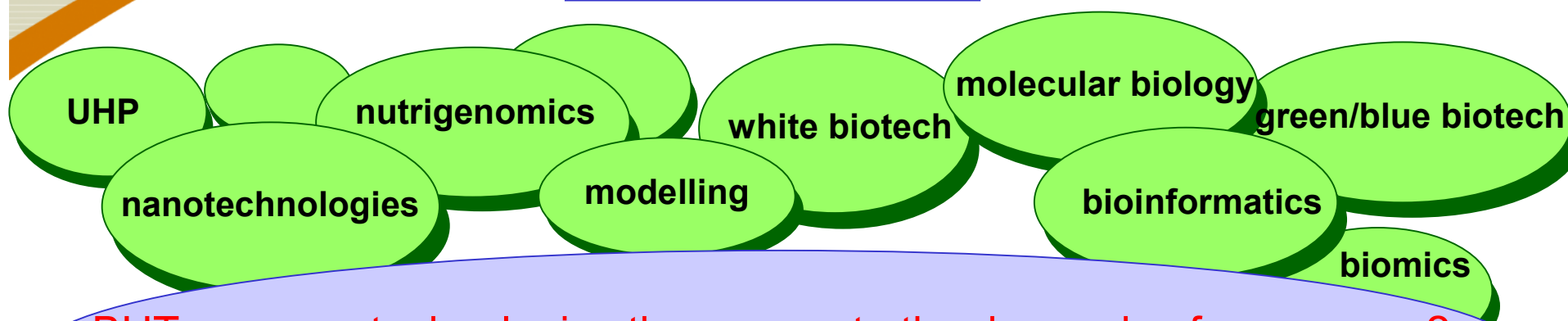
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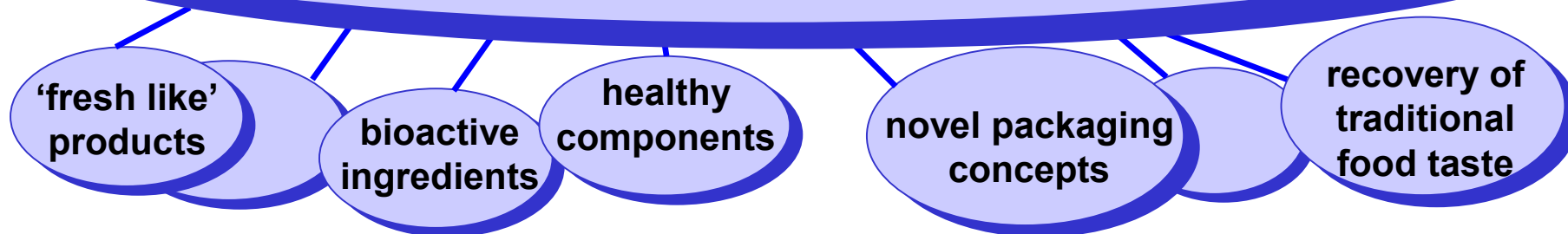


Strumenti per l'implementazione

TECHNOLOGY



**BUT, are new technologies the answer to the demands of consumers?
What is the best strategy of the food industry when using technology?**



STRATEGY





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7PQ: Previsioni

2006

4 Apr

EP: probable part-session scheduled by the DG of the Presidency, 1st reading of FP and Rules

Mar/Apr

Council - Common position on FP and Rules

May/June

EP - 2nd reading on FP; Opinion on SPs;
2nd reading on Rules (earliest)

June

Council - Adoption of FP and Rules

July

Council and EP - Adoption of FP and Rules

July

Council - Adoption of SPs

Oct

Commission - Adoption of Work programmes and
necessary materials

Nov/Dec

Commission - Publication of 1st calls

Earliest!





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7PQ: Che c'è di nuovo ?

- Duration
- Annual budget
- Simplification of structure and procedures
- Basic/Frontier research
- Long-term public-private partnerships
- Logistical and administrative tasks transferred to external structures

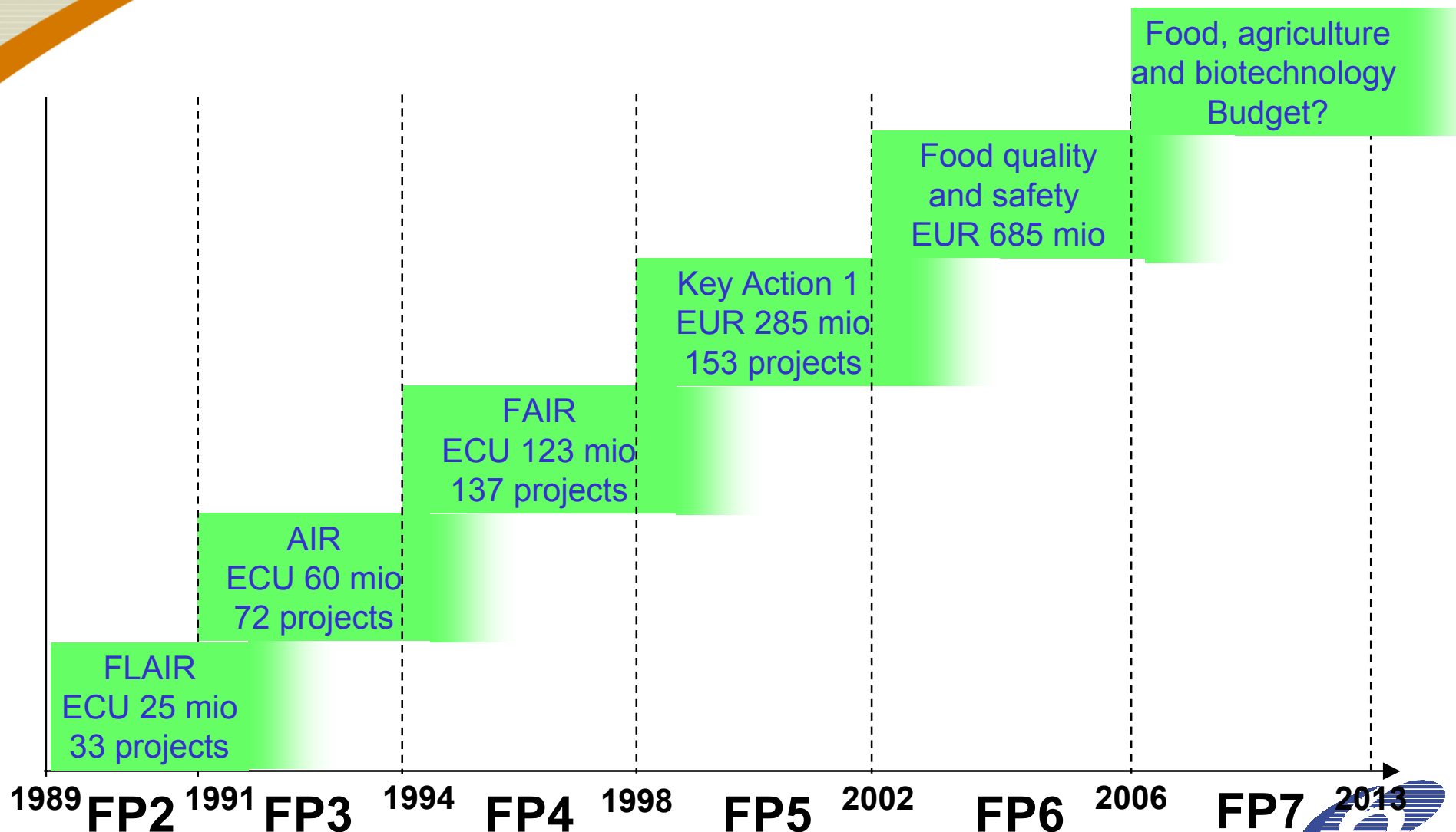




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Programmi Europei di Ricerca nel settore agro-alimentare.



VA – Tecnopolis, 27/02/2006

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7PQ 2007 - 2013

Specific Programmes

Cooperation – Collaborative research

Ideas – Frontier Research

People – Human Potential

Capacities – Research Capacity



JRC (non-nuclear)

JRC (nuclear)

Euratom





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Cooperation – Collaborative research

9 Thematic Priorities

1. **Health**
2. **Food, Agriculture and Biotechnology**
3. **Information and Communication Technologies**
4. **Nanosciences, Nanotechnologies, Materials and new Production Technologies**
5. **Energy**
6. **Environment (including Climate Change)**
7. **Transport (including Aeronautics)**
8. **Socio-Economic Sciences and the Humanities**
9. **Security and Space**

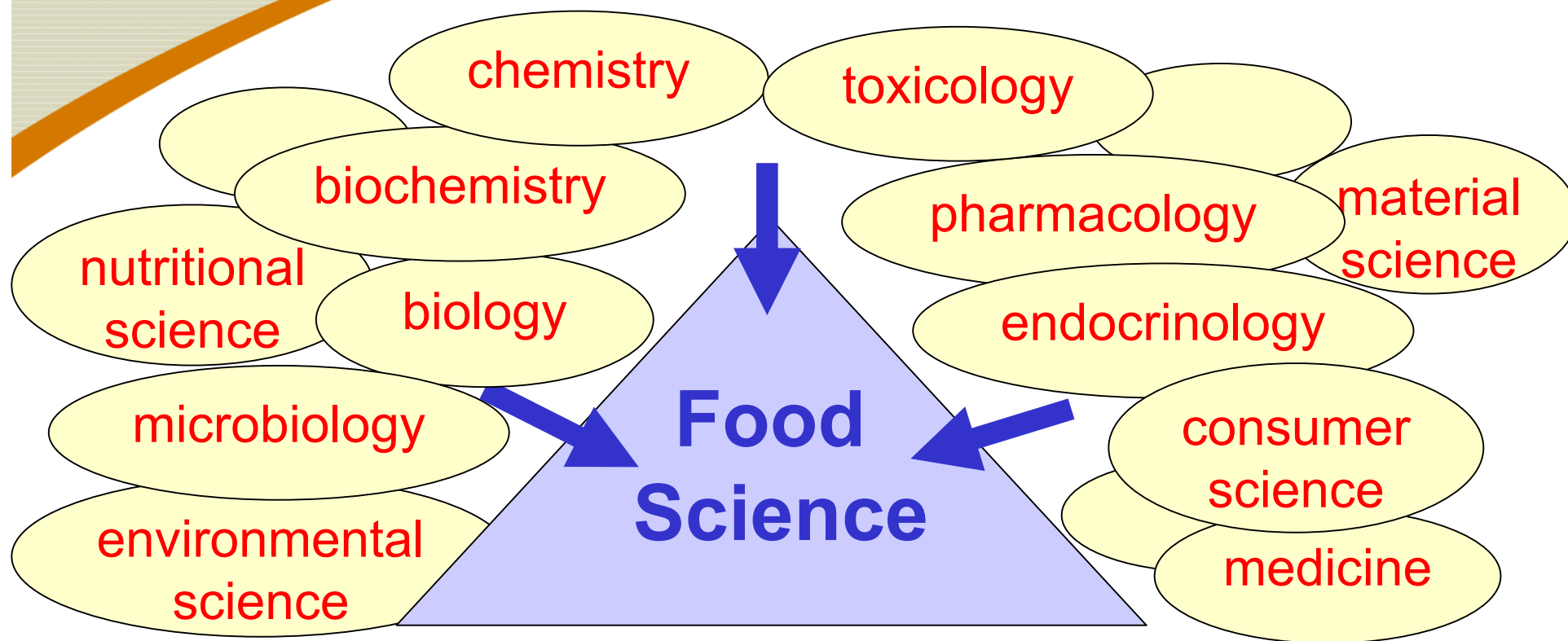




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Conoscenza



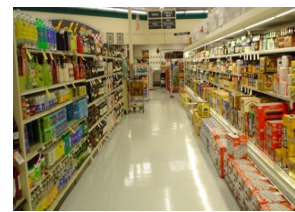
PRODUCTION

PROCESSING

PACKAGING

DISTRIBUTION

CONSUMPTION



VA - Technopols, 27/02/20

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Food, Agriculture and Biotechnology: Obiettivi

- Build a European Knowledge-Based Bio-Economy (KBBE)
- Respond to social and economic challenges:
 - ➔ High quality food and sustainable food production
 - ➔ Food-related disorders (cardiovascular, obesity ...)
 - ➔ Infectious animal diseases and zoonoses
 - ➔ Sustainable agriculture/fishery and climate change
 - ➔ Clean biomaterials from renewable bio-resources
- Involve all stakeholders (incl. industry) in research
- Support CAP and CFP
- Respond quickly to emerging research needs



THE EUROPEAN KNOWLEDGE-BASED BIOECONOMY

NUTRITION (nutrigenomics) - PATHOGENS
CONTAMINANTS - ALLERGENS

CONSUMER CHOICE

STABILITY - BIODEGRADABILITY
FUNCTIONALITY (Chirality)

SAFE HEALTHY
& DIVERSE
FOOD SUPPLY
"Fork to Farm"

BIOBASED
MATERIALS
FOR HEALTH
INDUSTRY
& ENERGY



TRACEABILITY SYSTEMS
ADVANCED FOOD TECHNOLOGIES

PROCESSING

WHITE BIOTECH
CLEAN BIOPROCESSES
RAW MATERIALS/WASTE

LOW INPUT FARMING - BIODIVERSITY
ANIMAL HEALTH - RURAL DEVT.

PRODUCTION

GREEN/BLUE BIOTECH
OPTIMISED RAW MATERIALS

SUSTAINABLE MANAGEMENT OF BIOLOGICAL RESOURCES
(LAND, FOREST, MARINE)





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Food, Agriculture and Biotechnology: Attività

Three activities

- 1) Sustainable production and management of biological resources from land, forest, and aquatic environments
- 2) “Fork to farm”: Food, health and well being
- 3) Life sciences and biotechnology for sustainable non-food products and processes





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Activity 1: Sustainable biological resources from land, forest, and aquatic environments

- Enabling research ('omics', converging technologies, bio-informatics, biodiversity) for micro-organism, plants and animals
- Sustainable, competitive and multifunctional agriculture, forestry, fisheries, and aquaculture
- Animal welfare, breeding and production; Infectious diseases in animals, including zoonoses
- Policy tools for the knowledge-based bio-economy, agriculture, fisheries, rural and coastal development





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Activity 2: “Fork to farm”- Food, health and well being

- Consumer and societal aspects of food
- Nutrition, diet-related diseases and disorders, nutrigenomics, food development
- Innovative food and feed processing and packaging, smart control, waste management
- Improved quality and assured microbiological and chemical safety of food and feed, detection methods, risk governance
- Environmental impacts on/of the food chain, total food chain concept





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Activity 3: Life sciences and biotechnology for sustainable non-food products and processes

- Improved crops, feed-stocks, marine products and biomass for energy, environment, and high added value industrial products; novel farming systems
- Bio-catalysis; new bio-refinery concepts
- Forestry and forest based products and processes
- Environmental remediation and cleaner processing





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Presentation Outline

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Piattaforme Tecnologiche Europee.

Importanza

Rationale

- *To contribute to competitiveness (Lisbon goal), boost research performance (ERA, 3% target) and concentrate efforts and address fragmentation*

Characteristics

- *To address challenging social and economic issues, embodying major technological advances and high research intensity and requiring a European level approach to provide high Community added value*

Approach

- *Gather a wide stakeholder base (industry, public authorities, research community, financial community, standardisation bodies, regulators, civil society, consumers / end-users) and mobilise private and public funding (national, regional and Community FWP, Structural Funds, EIB, EUREKA) and integrate education, training, communication, dissemination*



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Piattaforme Tecnologiche Europee. Caratteristiche

Bottom-Up Approach with Industry in Lead

Wide Stakeholder Involvement

Flexibility: No “One Size Fits All”

EU Role: Facilitating and Guiding but not Leading or Owning

Majority of Strategic Research Agendas, where Appropriate, Taken into Account in Thematic Priorities of FP7

Minority of Strategic Research Agendas Identified through Dialogue with Industry as Potential “Joint Technology Initiatives”





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Piattaforma Tecnologica Europea

“Food for Life”

- **Increase the competitiveness of the European food and drink industries**
- **Promote the ‘fork to farm’ approach to add value to food chains**
- **Consumers play a central role in the ETP**
 - ➔ Understanding and appreciation of EU cultural and lifestyle factors may further enhance the effectiveness of the food and drink industry
 - ➔ Design and validation of new ways to effectively communicate and target information on healthy diets at various population groups





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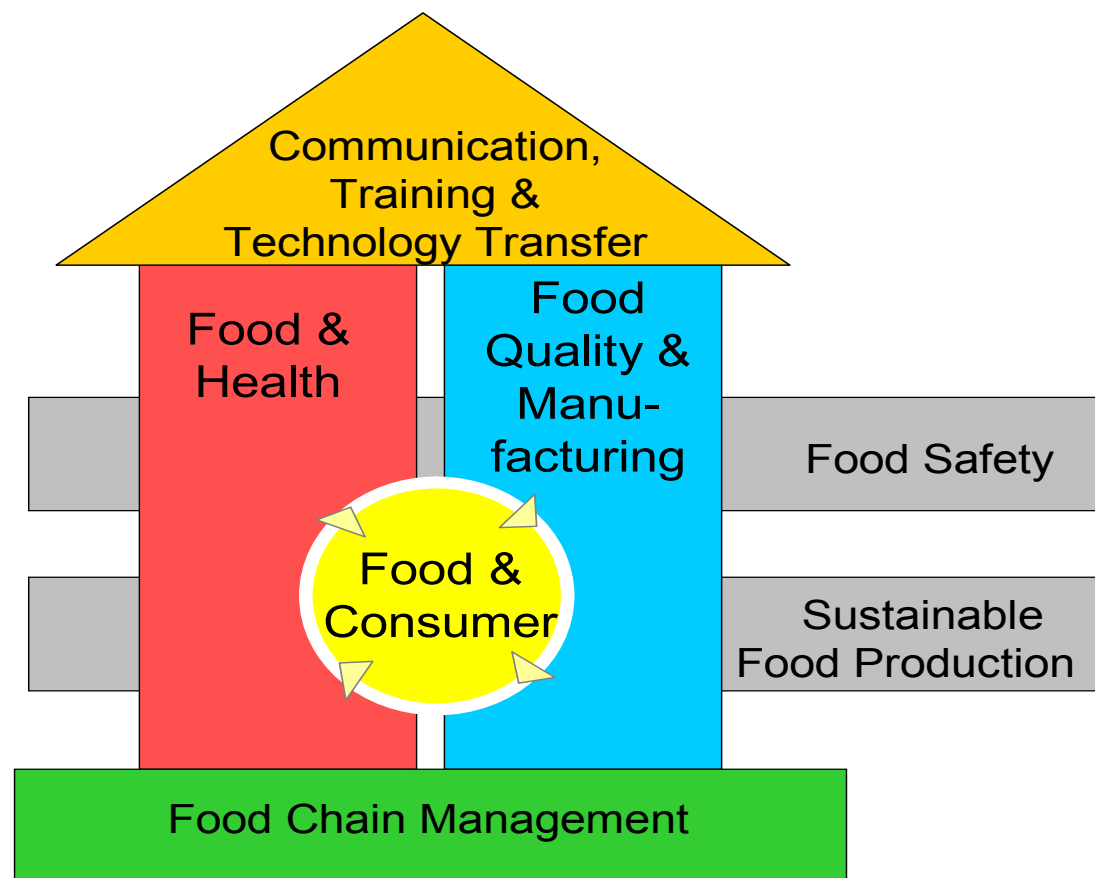
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Piattaforma Tecnologica Europea

“Food for Life”

European Technology Platform
on Food for Life

The vision for 2020 and beyond



<http://etp.ciaa.be/asp/home.asp>

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La ricerca Europea sui prodotti alimentari

1. Food & Health

- Ageing society
- Diseases prevention
- Weight management
- Mental performance
- Allergy reactions
- Wellbeing and resistance improvement
- Bioavailability of nutrients

2. Food Quality & Manufacturing (Premium taste & Convenience)

- Pleasure and texture
- Sensory perception
- Innovation on traditional food
- High Quality standards
- Novel packaging systems
- Easy to handle
- Time saving
- Ready to eat
- Food composition and presentation
- New processing lines
- Biotechnology
- Fermentations

3. Food and the Consumer

- Information/easy choices
- Labelling
- Determinants of choices
- “kitchen logic” changes
- Nutritional values and public health campaigns
- Science based communication on values
- Ethnic integration and changes/socio-cultural diversity
- Consumer perception

4. Food chain management

- Competitiveness Environment and segregation
- Minimal processing and stability
- Freshness and shelf life
- Technical sciences
- Business Administration
- Institutional & industrial economics
- Social sciences

5. Sustainable food production

- Sustainable growth and full life cycle Analysis
- Environment and segregation
- New farming technologies
- Innovative processing
- Knowledge management
- Quality standards and safety procedures of raw materials

6. Food Safety

- Reduced food spoilage
- Tracking
- Quantitative risk assessment
- Risk communication
- Epidemiology and Surveillance
- Foodborne micro-organisms
- Emerging pathogens
- New Technologies impact
- Holistic approach to cooked food safety

7. Commun. training

Techn. Transf.

- Cooperative Research
- Multidisciplinary Approach
- Partner Brokerage
- Scientific Literature
- Networking Maintenance
- Best practice guides
- low cost T.T.
- Dissemination
- on site trials
- Personnel transfer

7 PILLARS

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Altre Piattaforme Tecnologiche Europee nel “Food, Agriculture and Biotechnology”

- **Plants for the Future**
→ www.epsoweb.org/Catalog/TP/index.htm
- **Innovative and Sustainable Use of Forest Resources**
→ www.forestplatform.org
- **Global Animal Health**
→ www.europa.eu.int/comm/research/agriculture/index_en.html
- **Animal Breeding**
→ www.fabretp.org
- **Sustainable Chemistry**
→ www.cefic.org/

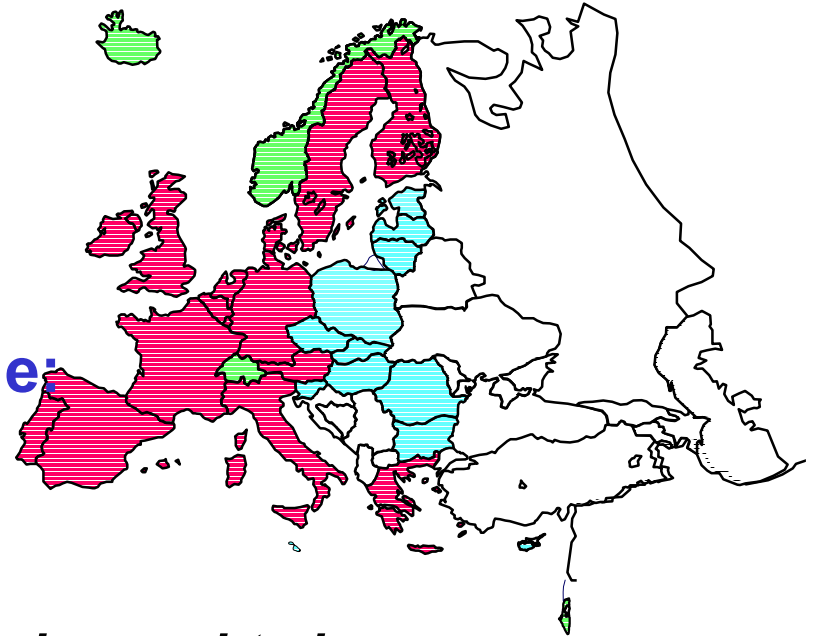




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- **EU research:** <http://europa.eu.int/comm/research>
- **Sixth Framework Programme:**
<http://www.cordis.lu/fp6/home.html>
<http://www.cordis.lu/fp6/food.htm>
- **Seventh Framework Programme:**
<http://www.cordis.lu/fp7/home.html>
- **Research DG Site:**
http://europa.eu.int/comm/research/index_en.html
- **RTD info magazine:**
<http://europa.eu.int/comm/research/rtdinfo/>
- **Information requests:** research@cec.eu.int





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Grazie !

